baseline. The AVDs consisted of calcitriol (58.7%) and alfacalcidol (41.3%), and their median doses were 0.5 (IQR, 0.5–0.5) μg and 0.5 (IQR, 0.25–1.0) μg, respectively. During a median follow-up of 2.9 (IQR, 2.1–3.0) years, PTM was observed to have developed in 5 (5.4%) of 92 AVD users and in 11 (8.7%) of 126 non-users. Cox regression analysis with stratification by the PS tertiles showed that AVDs were significantly associated with a lower risk of PTM (hazard ratio, 0.25 [95% confidence interval, 0.07–0.82], $P=0.022$). The level of serum 25-hydroxyvitamin D was generally low (median, 16.6 ng/ml), and not significantly associated with PTM. Sensitivity analyses with stratification by PS quartiles, PS matching, or inverse probability weighting yielded similar results.

Our results suggest a novel potential strategy to prevent PTM by using a normal dose of AVDs with a well-known safety profile. A randomized controlled trial should be performed to confirm our findings.

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ABDOMINAL X-RAY MIGHT BE A USEFUL TOOL FOR ASSESSING MEDICATION ADHERENCE IN PATIENTS RECEIVING LANTHANUM CARBONATE

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Control of the serum phosphate (P) level is the most important and challenging in dialysis patients, because hyperphosphatemia is closely associated with higher cardiovascular morbidity and mortality. Lanthanum carbonate (LC), which is a novel non-calcium phosphate P binder, is effective in decreasing the serum P level and is well-tolerated with fewer adverse effects. However, LC has been reported that ingested LC fragments could be detectable in abdominal X-ray and computed tomography, because its density is between that of bone and metal. We performed an observational study to assess the relationship clinical effects of LC and abdominal X-ray findings in dialysis patients receiving LC. The enrolled 39 patients (female 7 (17.9%), age 59.6 yrs, dialysis vintage 11.2 yrs, diabetes 15 (38.5%)) were made abdominal X-ray examination at 4, 8, and 12 weeks after LC administration. Serum albumin, creatinine, and alkaline phosphatase levels did not change significantly during the 12-week treatment period. The P and the parathyroid hormone levels decreased after LC administration. Abdominal X-ray examination revealed digested LC tablets, in a variety of forms, through the intestinal tract in 37 patients (94.9%). The two patients without any digested LC fragment were still hyperphosphatemic after LC prescription, and they admitted not to have taken LC. Their serum P levels rapidly decreased after a series of medication counseling. In conclusion, this study suggested that abdominal X-ray might be useful tool for assessing medication adherence in patients receiving LC.

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INFLUENCE OF DIET, EXERCISE, AND DIETICIAN'S ON THE INCIDENCE AND SURVIVAL OF JAPANESE DIALYSIS PATIENTS

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It is known that there are distinct regional differences in the incidence and prevalence of dialysis, as well as the survival of dialysis patients in Japan. We investigated the relationship between diet, the level of exercise, and the incidence of dialysis due to diabetes mellitus (DM) and chronic glomerulonephritis (CGN). We also investigated the influence of access to full-time and part-time dieticians at dialysis centers on survival. We used data for the 47 prefectures of Japan from the National Nutrition Survey 1995-99 ($n=38,003$) and the Japanese Society for Dialysis Therapy 2005-07 ($n=45,033$). The impact of each factor was assessed by univariate regression analysis. Univariate analysis showed that body mass index (BMI) ($r=0.296$, $p=0.022$), intake of fish and shellfish ($r=-0.254$, $p=0.043$), and the intake of meat ($r=0.275$, $p=0.031$) were correlated with the incidence of new patients starting dialysis due to DM. In addition, the BMI ($r=0.355$, $p=0.014$), number of steps walked daily ($r=-0.358$, $p=0.014$), intake of green and yellow vegetables ($r=-0.424$, $p=0.003$), intake of fish and shellfish ($r=-0.358$, $p=0.014$), and intake of milk ($r=-0.529$, $p<0.001$) were correlated with the incidence of new patients starting dialysis due to CGN. Access to full-time dieticians was correlated with the 1-year survival of new dialysis patients ($r=0.294$, $p=0.023$), but not access to part-time dieticians. We conclude that nutritional advice might play an important role in survival in dialysis patients.

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COMPARISON OF DIALYSIS EFFICIENCY AND NUTRITIONAL PARAMETERS AMONG ELDERLY HEMODIALYSIS PATIENTS

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Nutritional markers are important predictors of morbidity and mortality in dialysis patients. We investigated dialysis efficiency indicators and nutritional parameters of 82 elderly patients who started to receive hemodialysis treatment and lasted more than a year in our hospital for last 5 years. 20 patients were expired during treatment period and 62 patients are alive. The indicators were measured at one year after the initiation of dialysis and the most recent time or the most recent time before death. Differences in the means between the groups were evaluated by un-paired Student's t-test. In survival group, urea reduction rate (URR), Kt/V/week, normalized protein catabolic rate (nPCR), serum total cholesterol were higher than those of death group.

Post-hemodialysis 1 year	Survival group	Death group	*p* value
URR (%)	69.86 ± 4.85	66.07 ± 12.09	0.05
Kt/V/week	4.78 ± 1.35	3.91 ± 0.75	0.01
nPCR (g/kg/day)	1.10 ± 0.25	0.96 ± 0.16	0.01
Hemoglobin (g/dL)	10.70 ± 0.77	9.97 ± 0.93	0.00
T. cholesterol (mg/dL)	168.52 ± 37.22	145.80 ± 54.02	0.04

The most recent time	Survival group	Death group	*p* value
URR (%)	72.44 ± 3.77	68.47 ± 5.90	0.00
Kt/V/week	4.95 ± 1.24	4.19 ± 0.68	0.01
nPCR (g/kg/day)	1.20 ± 0.60	0.85 ± 0.30	0.02
Hemoglobin (g/dL)	10.47 ± 1.49	9.79 ± 1.25	0.07
T. cholesterol (mg/dL)	159.52 ± 31.97	130.20 ± 32.79	0.00

In conclusion, these results imply that elderly hemodialysis patients may require adequate dialysis manage and special nutritional support.

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COMPARISON OF NUTRITIONAL PARAMETERS AFTER ABO INCOMPATIBLE LIVING DONOR RENAL TRANSPLANTATION

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The prevalence of malnutrition is high in patients on maintenance dialysis treatment in relation to low protein and energy intakes, metabolic disorders. We investigated the evolution of nutritional status during the first year after ABO incompatible living donor kidney transplantation (ABOI-LKT) in our hospital through assessment of chemical markers. A total of 16 kidney transplant recipients were followed during the first post-transplant year. Biochemical nutritional markers were assessed at 12 months later after ABOI-LKT. Differences in the means between the pre-transplant and post-transplant chemical markers were evaluated by paired Student's *t*-test.